

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P560349

Luminaire Tested: FSR-12-2-LD4-2HI-50-UNV-82-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560349  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-12-2-LD4-2HI-50-UNV-82-96-EDD  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

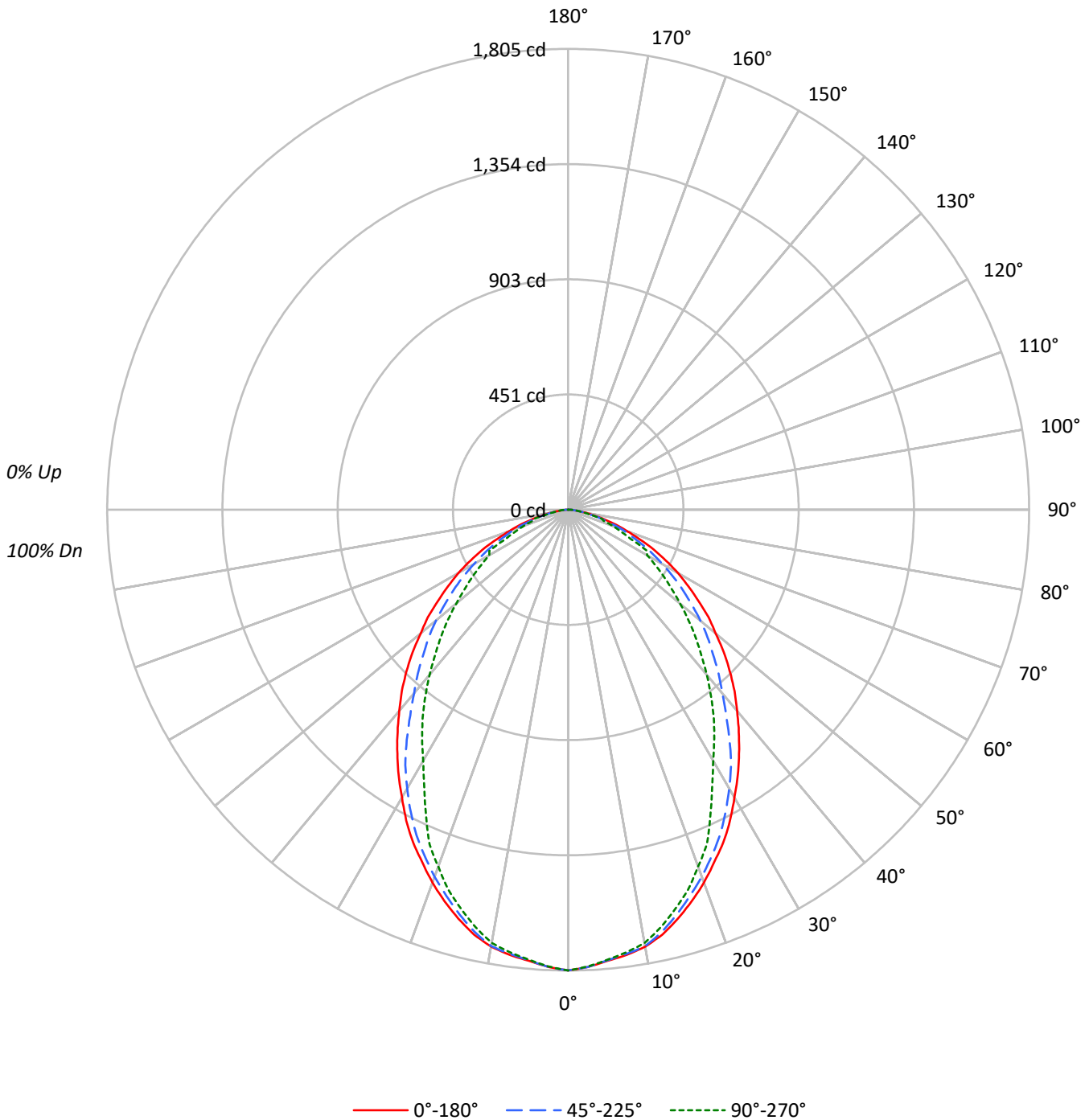
Lumens per Lamp: N/A  
Luminaire Lumens: 3543.0 lumens  
Efficiency: N/A  
Efficacy: 82.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9713	9713	9713
5°	9581	9570	9559
10°	9498	9487	9418
15°	9242	9149	9021
20°	8903	8759	8520
25°	8536	8350	7830
30°	8091	7832	7054
35°	7663	7238	6525
40°	7227	6596	5937
45°	6813	6098	5367
50°	6306	5660	4787
55°	5834	5129	4287
60°	5345	4581	3841
65°	4703	4013	3401
70°	3874	3512	2889
75°	3080	2691	2820
80°	2070	1940	1810
85°	1291	1544	1803

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6813 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	168.0	4.7
10°-20°	461.1	13.0
20°-30°	638.3	18.0
30°-40°	680.6	19.2
40°-50°	620.9	17.5
50°-60°	486.4	13.7
60°-70°	317.0	8.9
70°-80°	140.5	4.0
80°-90°	30.1	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1267.4	35.8
0°-40°	1948.0	55.0
0°-60°	3055.3	86.2
0°-90°	3543.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3543.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1805	1805	1805	1805	1805	
5°	1774	1771	1771	1769	1769	168
15°	1659	1659	1642	1625	1619	466
25°	1438	1429	1406	1356	1319	660
35°	1166	1158	1102	1018	993	729
45°	895	876	801	734	705	689
55°	622	603	547	482	457	558
65°	369	348	315	321	267	364
75°	148	138	129	123	136	159
85°	21	23	25	27	29	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1804.8	1804.8	1804.8	1804.8	1804.8
2.5°	1792.2	1792.2	1792.2	1790.2	1790.2
5°	1773.5	1771.4	1771.4	1769.3	1769.3
7.5°	1758.9	1756.8	1754.7	1752.6	1748.4
10°	1738.0	1738.0	1735.9	1725.5	1723.4
12.5°	1704.6	1702.5	1694.2	1679.6	1675.4
15°	1658.7	1658.7	1642.0	1625.3	1619.1
17.5°	1608.6	1606.5	1585.7	1569.0	1560.6
20°	1554.4	1550.2	1529.3	1502.2	1487.6
22.5°	1493.9	1493.9	1468.8	1433.4	1418.8
25°	1437.5	1429.2	1406.2	1356.2	1318.6
27.5°	1372.9	1360.3	1335.3	1264.4	1220.6
30°	1301.9	1295.7	1260.2	1168.4	1135.0
32.5°	1235.2	1224.7	1187.2	1091.2	1064.1
35°	1166.3	1158.0	1101.6	1018.2	993.1
37.5°	1097.5	1087.0	1016.1	949.3	918.0
40°	1028.6	1016.1	938.9	878.4	845.0
42.5°	963.9	947.2	872.1	807.4	769.9
45°	895.1	876.3	801.2	734.4	705.2
47.5°	826.2	809.5	740.7	671.8	638.4
50°	753.2	738.6	676.0	607.1	571.7
52.5°	692.7	669.7	609.2	540.4	511.2
55°	621.8	603.0	546.6	482.0	456.9
57.5°	557.1	538.3	486.1	425.6	404.8
60°	496.6	469.4	425.6	373.5	356.8
62.5°	429.8	408.9	371.4	327.6	348.4
65°	369.3	348.4	315.1	321.3	267.1
67.5°	302.5	292.1	262.9	233.7	225.3
70°	246.2	233.7	223.2	192.0	183.6
72.5°	196.1	183.6	169.0	152.3	146.0
75°	148.1	137.7	129.4	123.1	135.6
77.5°	102.2	98.1	91.8	85.5	83.5
80°	66.8	64.7	62.6	60.5	58.4
82.5°	39.6	39.6	39.6	39.6	39.6
85°	20.9	23.0	25.0	27.1	29.2
87.5°	12.5	12.5	14.6	16.7	18.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)